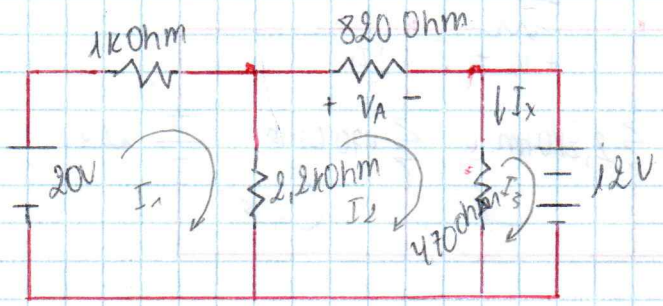
DÍA MES AÑO

Cálculos.

NOTA 7

"Tú debes ser el cambio que deseas ver en el mundo". Mahatma Gandhi

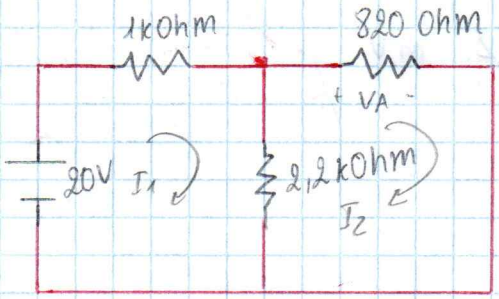


Cálculos con las dos fuentes conectadas

$$\begin{cases} 20 - 1000I_1 - 2200(I_1 - I_2) = 0 \\ -2200(I_2 - I_1) - 820I_2 - 470(I_2 - I_3) = 0 \\ -12 - 470(I_3 - I_2) = 0 \end{cases} \qquad \begin{cases} I_1 = 7,05 \text{ mA} \\ I_2 = 1,16 \text{ mA} \\ I_3 = -24,37 \text{ mA} \end{cases}$$

$\therefore I_x = I_2 + I_3 = 1,16 + 24,4 = 25,56 \text{ mA}$

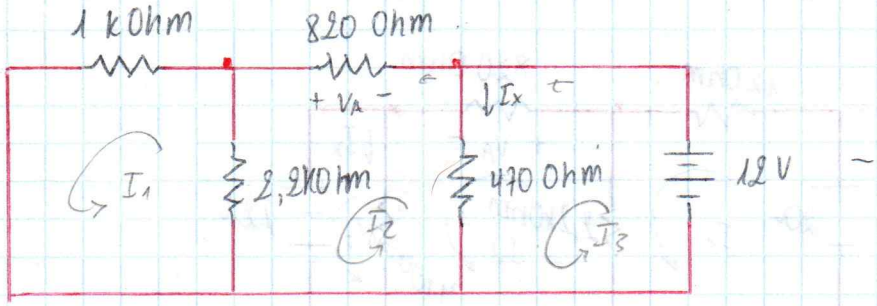
$V_A = 820(1,16) = 951,2 \text{ mV}$



$$\begin{cases} 20 - 1000I_1 - 2200(I_1 - I_2) = 0 \\ -2200(I_2 - I_1) - 820I_2 = 0 \end{cases} \qquad \begin{cases} I_1 = 12,52 \text{ mA} \\ I_2 = 9,12 \text{ mA} \end{cases}$$

$\therefore$ No hay I_x.

$V_{A_1} = 820(9,12) = 7478,4 \text{ mV}$



$$\begin{cases} -1000 I_1 - 2200(I_1 - I_2) = 0 \\ -2200(I_2 - I_1) - 820 I_2 - 470(I_2 - I_3) = 0 \\ 12 - 470(I_3 - I_2) = 0 \end{cases} \qquad \begin{cases} I_1 = 5,47 \text{ mA} \\ I_2 = 7,96 \text{ mA} \\ I_3 = 33,49 \text{ mA} \end{cases}$$

$\therefore$ $I_{x_2} = I_3 - I_2 = 33,49 - 7,96 = 25,53$ mA

$V_{A_2} = 820(7,96) = 6527,2$ mV

$\therefore$ $I_x = I_{x_1} + I_{x_2} = 0 + 25,53 = 25,53$ mA ✓

$V_A = V_{A_1} - V_{A_2} = 951,2$ mV ✓